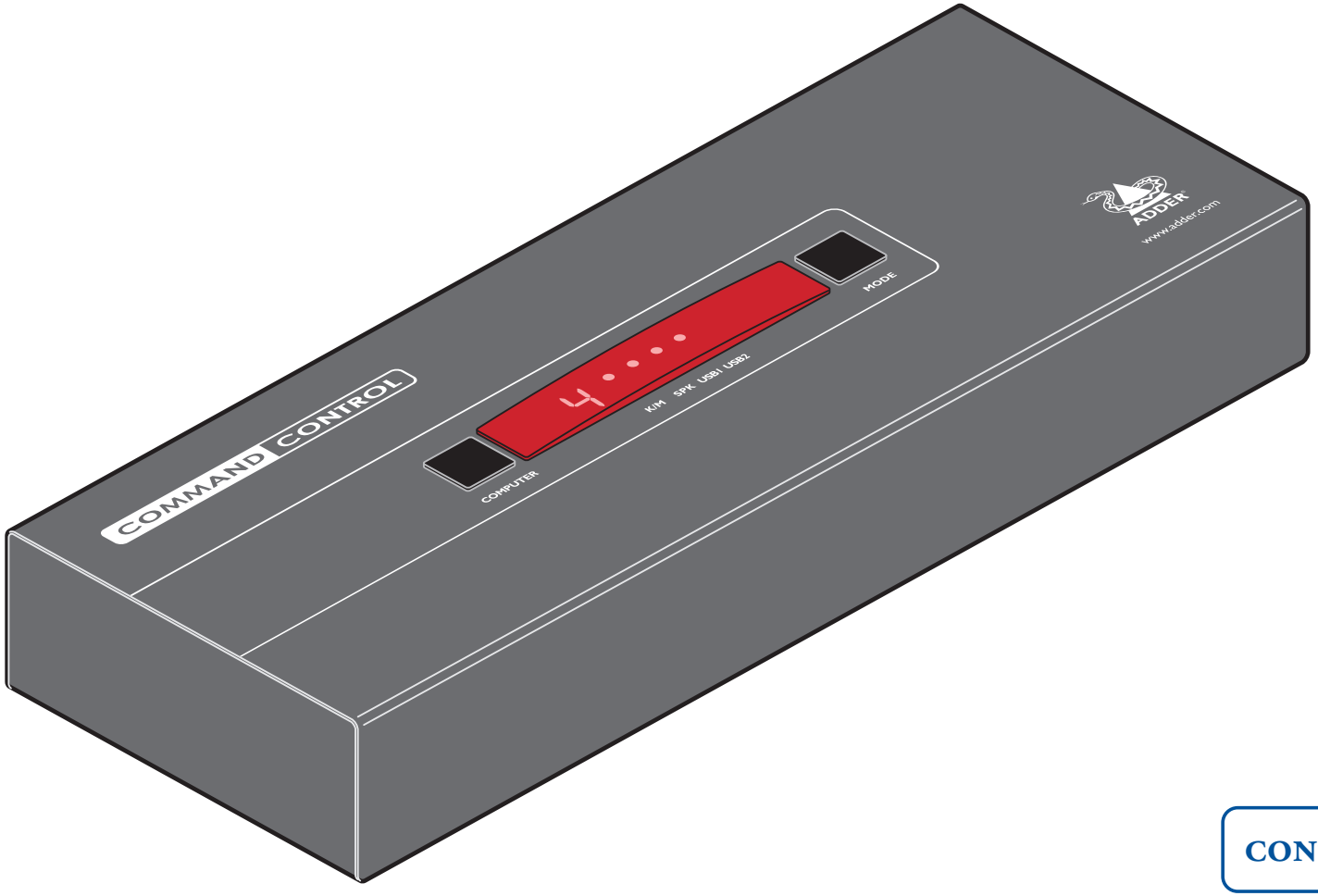
Adder CCS4-USB

Four-port keyboard and mouse switch



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Welcome

Introduction

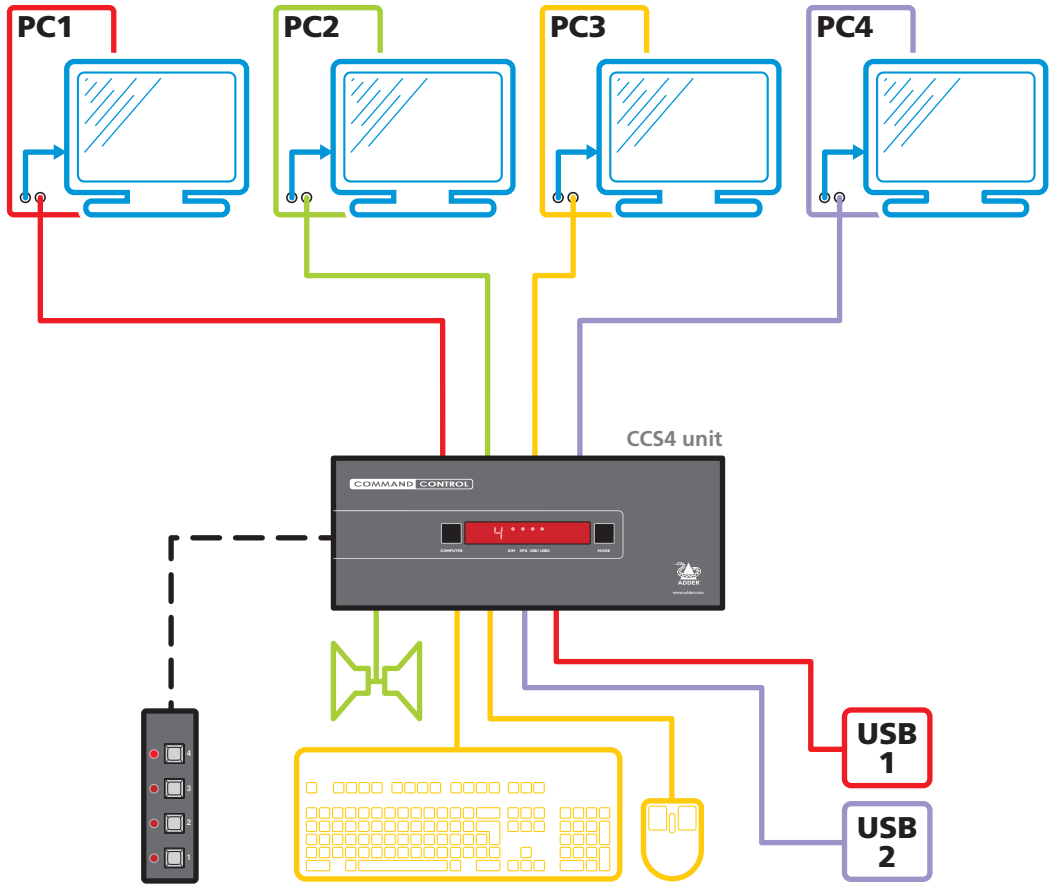
The Adder CCS4-USB (Command and Control Switch, four port, USB) is a compact unit created to allow a single operator to access information and control operations across numerous systems and screens. With the CCS4 unit, you can use a single USB keyboard and USB mouse to fulfil functions that previously required four separate sets. This provides immediate savings in both desk space and also the time required to access and control up to four systems and screens. The CCS4 features our True Emulation technology, which ensures that the full characteristics of the connected USB keyboard and mouse are passed to every system.

In addition to switching the keyboard and mouse, the CCS4 can also share a set of speakers and two separate USB peripherals between the four systems. This can be done either in concert with the keyboard and mouse (and each other) or totally independently.

Switching between the systems connected to the Adder CCS4 can be achieved in four different ways:

- The Adder CCS4 unit COMPUTER button
- Keyboard hotkey combinations
- Mouse button combinations
- The optional remote control selector

The video displays are connected directly to their respective systems as usual. A single USB link (plus an optional speaker connection) is made between each system and the CCS4 unit.



The optional remote control allows the CCS4 unit to be neatly concealed amongst the cabling.

The keyboard/mouse, the speakers and two individual USB channels can be collectively or separately switched through to each PC system. These are electronically switched to the required system using any of four methods: CCS4 unit control panel, keyboard key-presses, mouse buttons or optional remote control.

What is True Emulation?

True Emulation represents a significant breakthrough in sharing USB devices between two or more computer systems. Until this point, the problem has been how to create a USB switch that provides all of the following:

- Quick, transparent and reliable switching,
- Accurate representation of the connected USB keyboard and mouse,
- Switching control via the connected USB keyboard and/or mouse.

The difficulty in achieving all of the above requirements has been due to the complexity of the USB standard. This has led to various problems that have spawned a number of possible solutions.

Enumerated USB switching

The earliest attempts to switch USB devices applied a relatively 'hands off' approach. Enumerated USB switches are the electronic equivalent of those old mechanical KVM switches with a large knob on the front.

Enumerated switches are so called because a connected USB device will be required to perform a full initiation (a process called *Enumeration*) every time it is switched; just as if you had pulled out the plug and then reconnected it.

Enumerated switches simply pass all signals straight through between the USB device and the computer, they do not attempt to interpret any data. For most devices, this offers an advantage because the switch just leaves them to get on with their jobs without any interference or any hit on performance. However, it means that a USB keyboard or mouse cannot be used to control the switching process - a quick and simple control method expected by most users. Reliability of switching is also an issue that has plagued enumerated switches, especially when used with certain USB devices and particular operating systems.

Emulated USB switching

The issues with interpreting the complex USB data streams and recreating (or *Emulating*) the identity of attached USB devices were eventually solved, leading to the creation of the Emulated USB switch.

A neat side effect of the technique used is that each computer can be fooled into thinking that the USB device is permanently connected to it, even when the device is switched to another computer. This means that the enumeration process for the USB device takes place only once, during the first power on. After that, a computer merely sees a dormant version of the USB device whenever the device is actually connected to a different computer.

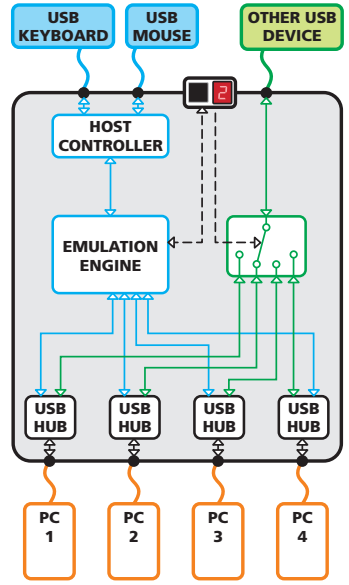
However, it remains a complex task to dynamically assume the identity of a USB device, distribute it among the connected computers and maintain all of the necessary signals, states and processes. Therefore, manufacturers have previously relied upon a fixed keyboard and mouse profile that is declared to each computer, regardless of the actual connected devices. This precluded the use of any special keyboard or mouse features over and above the standard layouts.

True Emulation

Mindful of the limitations associated with the previous USB switching techniques, we set about creating a more effective and elegant solution. After a great deal of research and development, *True Emulation* is the result.

True Emulation allows the complete identity of the keyboard and mouse to be copied and then presented to all of the connected computers. This means that any keyboard offering specialist function keys or any mouse with extra features will be fully supported at each computer. As with the previous emulation method, the unselected computers will continue to see the identities of the keyboard and mouse, which means that no enumeration is necessary when their link becomes active once again. This not only helps to speed up the rate of reconnection, but also raises the reliability of switching because USB links are at their most vulnerable during the enumeration process.

True Emulation relies upon a high speed circuit, called an Emulation Engine, to fully emulate the USB device identities and also interpret keyboard and mouse data streams. The result is full support for KVM switching control via hotkey presses or the third button/scroll wheel of a mouse.



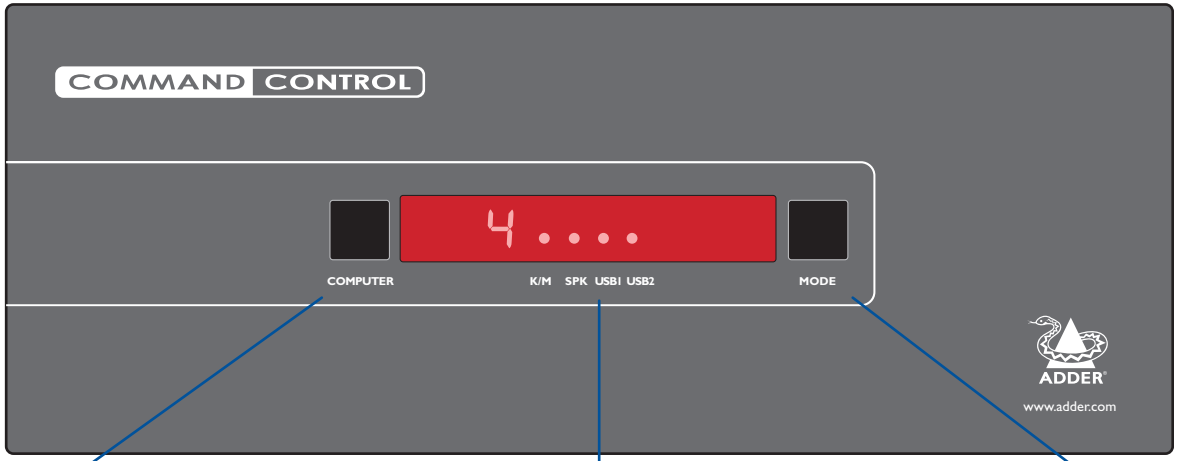
The emulated section of the switch is shown in blue and handles only the keyboard and mouse. The green enumerated section of the switch handles other USB devices and also uses the USB hubs to link with the computers.

True Emulation is not necessarily required by other USB devices, which is why you will also find two enumerated circuits included (shown in green within the block diagram) alongside the True Emulation feature (shown in blue). This allows those other USB devices to operate at their highest speeds, without any intervention. The enumerated circuits benefit greatly from the USB Hubs that are jointly used with the True Emulation system. Because they interface directly and permanently with each computer, they help to stabilise the dormant links, making errors during enumeration much less likely.

The dual switching arrangement provides further flexibility because the True Emulation and enumerated sections can be switched in unison or independently of each other, as required. Thus, your various peripherals can operate with different computers at the same time.

Adder CCS4 features - top and rear

The Adder CCS4 unit is housed within durable, metallic enclosure with all connectors situated at the rear panel. The smart top panel features the control buttons and the operation indicators.

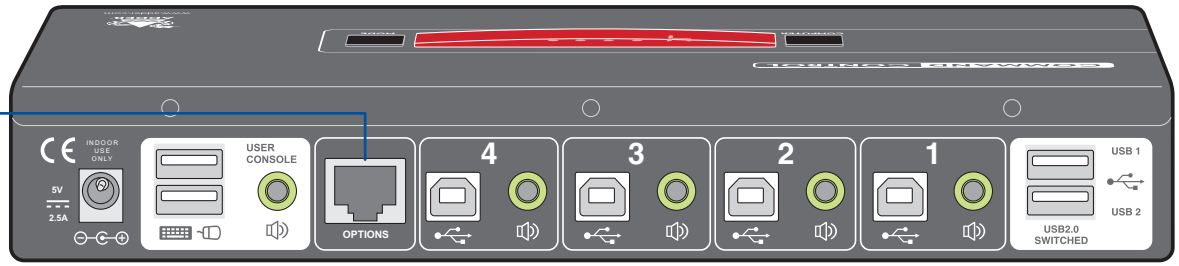


COMPUTER button
Press to change to the next computer channel.

Indicators
The four indicators (**K/M, SPK, USB1, USB2**) show which peripherals are switched to the current computer channel OR (as you begin pressing the MODE button) the peripherals that will be switched during the next press(es) of the COMPUTER button.

The seven segment numeric display indicates the computer channel that is currently active.

MODE button
Press to determine which peripherals should be switched to another computer channel (will occur when the COMPUTER button is pressed.



Options port
This 10p10c port can separately support the following functions:

- Remote control - allows a standard Adder RC4 four button remote control unit to be used to switch channels (see Optional RC4 remote control for details).
- Upgrades - used to update the internal firmware when necessary by connecting to a computer.

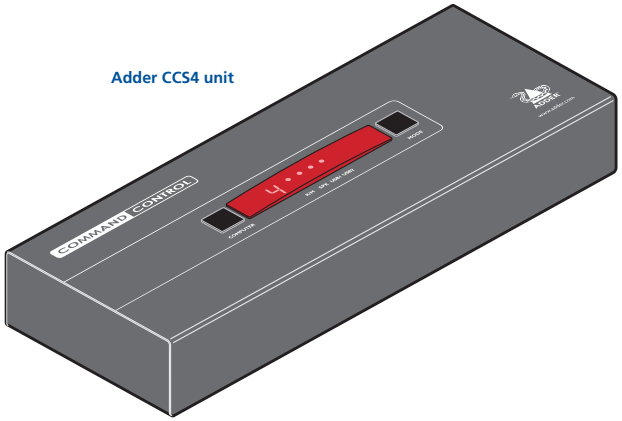
Power input
The power supply connects here.

User console
Connect a USB keyboard and mouse plus optional speakers to these connectors.

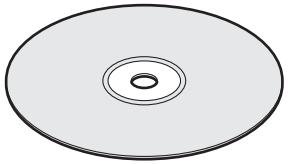
Computer channels
Each computer connects to one of these four channels via a USB B-type connector and an audio 3.5mm jack input.

User console
Connect up to two USB devices to these connectors. These ports are switched in an enumerated manner (see What is True Emulation?)

What's in the box



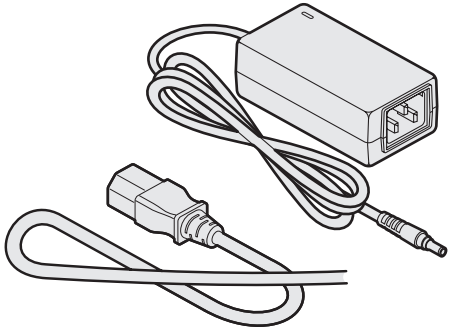
Adder CCS4 unit



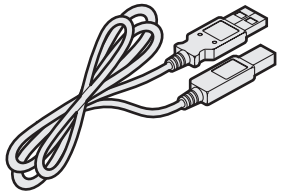
CD-ROM

Four self-adhesive rubber feet

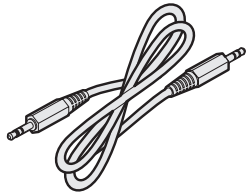
Power adapter (12.5W) and country-specific power lead



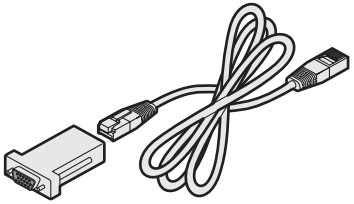
What you may additionally need



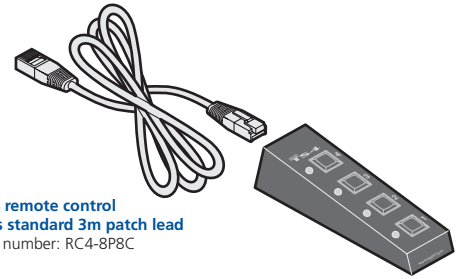
USB cable 2m (type A to B)
Part number: VSC24



Audio cable 2m (3.5mm stereo jacks)
Part number: VSC22



Flash upgrade adapter plus standard 3m patch lead
Part number: VSC40



RC4 remote control plus standard 3m patch lead
Part number: RC4-8P8C

Installation

Locations

Please consider the following important points when planning the position of the Adder CCS4 unit:

- Situate the Adder CCS4 unit close to the systems to which it will be connected and near to a source of mains power.
- Thanks to the optional remote control, the Adder CCS4 unit can be situated out of sight within the cabling cradle of a desk or placed adjacent to the connected systems.
- Consult the precautions listed within the Safety information section.

Mounting

Before you begin connecting to the keyboard, mouse and source systems, it is advisable to mount the Adder CCS4 unit in place, either:

- On a horizontal surface using the supplied self adhesive feet, or
- Amongst the cabling at the rear of the desk.

Connections

Connections do not need to be carried out in the order given within this guide, however, where possible connect the *power in* as a final step

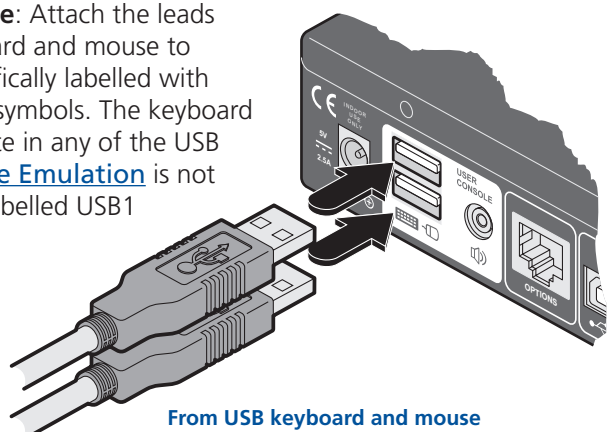
User console

The ports that make up the user console are where you attach the peripherals which will be shared between the computer systems. Ensure that power is disconnected from the unit.

To connect peripherals to the user console

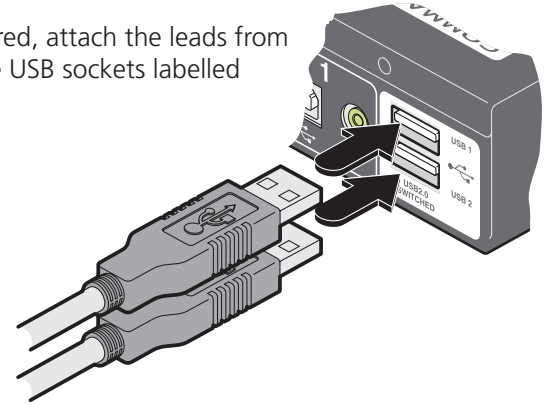
1 Position your peripheral devices in the vicinity of the unit such that their cables will easily reach.

2 **Keyboard and mouse**: Attach the leads from your USB keyboard and mouse to the USB sockets specifically labelled with keyboard and mouse symbols. The keyboard and mouse will operate in any of the USB sockets, however, True Emulation is not available on sockets labelled USB1 or USB2.



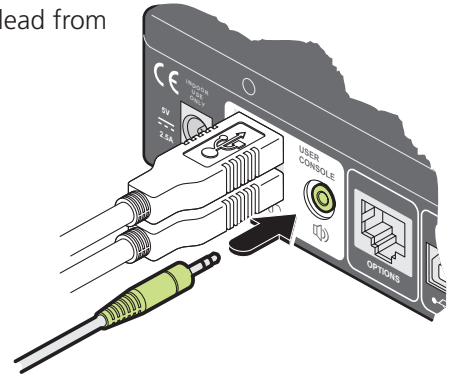
From USB keyboard and mouse

3 **USB devices**: Where required, attach the leads from your USB peripherals to the USB sockets labelled USB1 and USB2.



From USB peripherals

4 **Audio**: Where required, connect the lead from your speakers to the audio socket.



From speakers

Computer systems

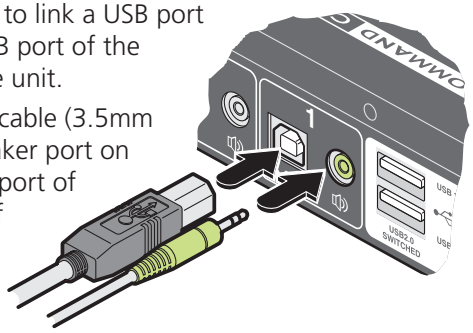
Each computer system is connected to the CCS4 unit using (up to) two cables.

To connect a computer system

1 Ensure that power is disconnected from the Adder CCS4 unit and the system to be connected.

2 Use a USB cable (type-A to type-B) to link a USB port on the computer system to the USB port of the required channel on the rear of the unit.

3 If required, use a stereo audio link cable (3.5mm jacks at either end) to link the speaker port on the computer system to the audio port of the required channel on the rear of the unit.



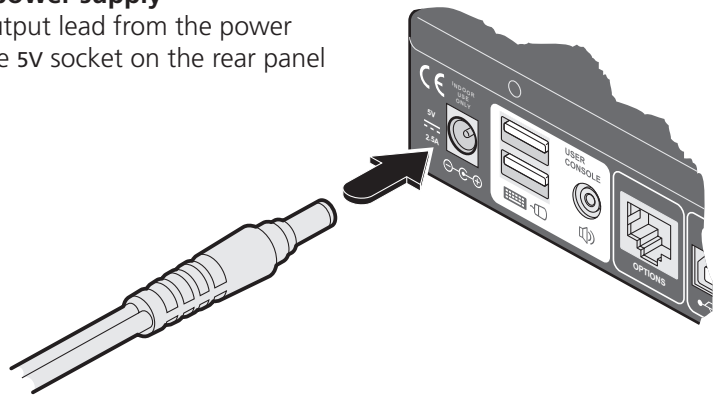
USB and audio links to a system

Power connection

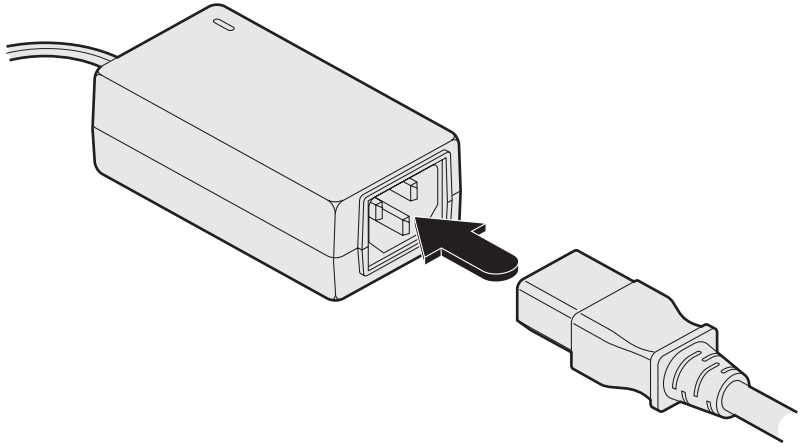
The Adder CCS4 unit is supplied with a 12.5W power adapter. There is no on/off switch on the unit, so operation begins as soon as a power adapter is connected.

To connect the power supply

1 Attach the output lead from the power adapter to the 5V socket on the rear panel of the unit.



2 Connect the IEC connector of the supplied country-specific power lead to the socket of the power adapter.



3 Connect the power lead to a nearby main supply socket.

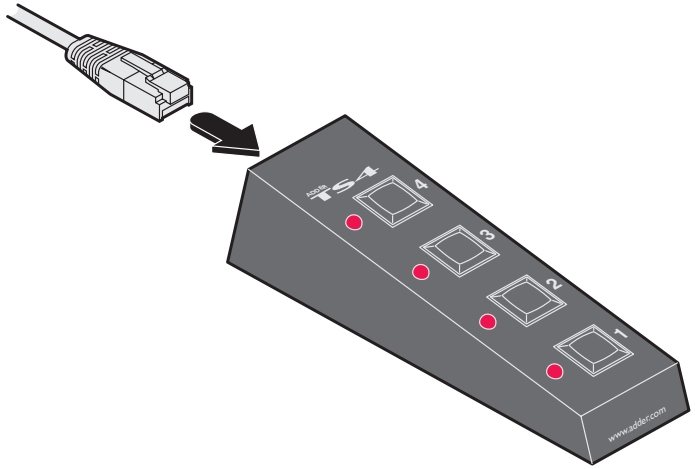
Note: Both the unit and its power supply generate heat when in operation and will become warm to the touch. Do not enclose them or place them in locations where air cannot circulate to cool the equipment. Do not operate the equipment in ambient temperatures exceeding 40 degrees Centigrade. Do not place the products in contact with equipment whose surface temperature exceeds 40 degrees Centigrade.

Optional RC4 remote control

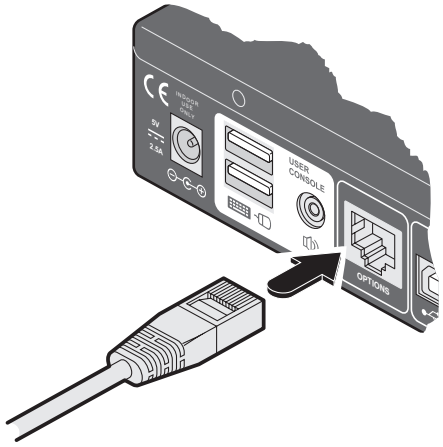
The optional RC4 remote control unit (full part number: RC4-8P8C) can be used to provide direct push button access to any channel from your desktop. The RC4 remote control is supplied with a 3 metre cable that is used to link with the OPTIONS port on the rear panel of the unit.

To connect the remote control

1 Connect either end of the supplied cable to the socket at the rear of the RC4 remote control.



2 Connect the other end of the cable to the OPTIONS port on the rear panel of the unit.



Switching control by computer

The OPTIONS port featured on every Adder CCS4 allows an external serial input, typically from a computer, to control the selection of the various channels. For more details about the necessary cable, see Appendix 1.

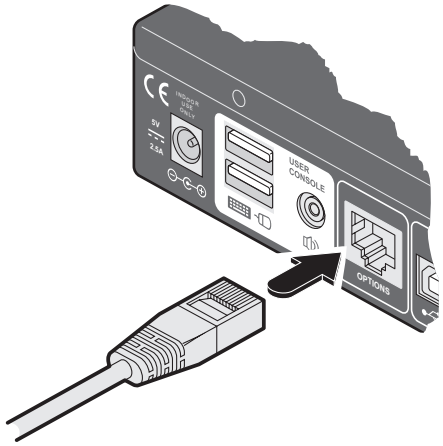
Upon receipt of the correct code, the Adder CCS4 will switch immediately to the appropriate channel.

Connecting a computer for remote control

The cable link from the computer needs to connect the transmit (TXD) line of the computer to the receive (RXD) input of the Adder CCS4 and also link the ground terminals (GND) of the two devices. See Appendix 1 for details.

To connect a computer remote control

1 Insert the 8p8c connector of the cable to the OPTIONS port on the rear panel of the unit.



2 Connect the other end of the cable to a vacant serial port on the computer.

Serial port parameter settings

Ensure that the chosen serial port is configured to the following:

- Baud rate: 1200
- Data bits: 8
- Stop bit: 1
- Parity: None

Channel selection codes

	ASCII Character	Hex	Decimal
• Channel 1:	'1'	0x31	49
• Channel 2:	'2'	0x32	50
• Channel 3:	'3'	0x33	51
• Channel 4:	'4'	0x34	52

Configuration

Using the configuration menu

The configuration mode allows you to determine numerous aspects of the Adder CCS4 unit capabilities.

To use the configuration menu

During normal use, the seven segment display on the control panel shows the number of the currently selected computer channel. From this condition, enter configuration mode as follows:

1 Press and hold the control panel COMPUTER button for roughly five seconds.
The display will show: [

2 On the keyboard, press the letter key for the required menu section, e.g. S
The display will show the pressed letter, e.g. S

3 Press the number of the required setting, e.g. 4
The display will show the pressed number, e.g. 4

4 Press Enter to accept the setting and return to the main menu section.
The display will show: [

5 You can now continue with your next configuration change (go to step 2), or exit from the configuration menu (see below).

To exit the configuration menu and save changes

- Press E and then press Enter to exit and save changes.

To exit the configuration menu without saving

- Press either of the front panel buttons.

F Enter the ***Functions*** menu
- 1 Show current firmware version
- 8 Reset configuration to factory defaults (r is displayed momentarily)

H Enter the ***Hotkey*** menu
- 1 Ctrl + Alt
- 2 Ctrl + Shift
- 3 Alt + Shift
- 4 Right Alt
- 5 Alt
- 6 Left Ctrl + Alt
- 7 Right Ctrl + Alt
- 8 Hotkeys disabled

You can press Esc at any point to exit from an option and return to the main menu ([ ) section.

S Enter the ***Switch Mode*** menu
- 1 All
- 2 K/M + Speaker
- 3 K/M only
- 4 Speaker only
- 5 USB1 only
- 6 USB2 only

U Enter the ***User Preferences*** menu
- 1 Enable mouse switching
- 2 Disable mouse switching
- 7 Cycle all ports (when using 'Hotkey + Tab')
- 8 Cycle only active ports (when using 'Hotkey + Tab)

General configuration

Changing hotkeys

Adder CCS4 units use Ctrl and Alt as their standard hotkeys. These can be changed if they clash with other software or hardware within the installation.

To change the hotkeys

1 Enter the Configuration menu.

2 Press H to enter the **Hotkey** menu and then press either:

- 1 to choose **Ctrl + Alt**
- 2 to choose **Ctrl + Shift**
- 3 to choose **Alt + Shift**
- 4 to choose **Right Alt**
- 5 to choose **Alt**
- 6 to choose **Left Ctrl + Alt**
- 7 to choose **Right Ctrl + Alt**
- 8 to disable the Hotkeys

3 Press Enter to accept the setting and return to the main menu section.

4 Press E and then Enter to exit the menu and save changes.

Mouse switching

You can enable or disable mouse switching to suit your installation requirements.

To enable/disable mouse switching

1 Enter the Configuration menu.

2 Press U to enter the **User Preferences** menu and then press either:

- 1 to **Enable mouse switching**
- 2 to **Disable mouse switching**

3 Press Enter to accept the setting and return to the main menu section.

4 Press E and then Enter to exit the menu and save changes.

Miscellaneous functions

To reset configuration to factory defaults

1 Enter the Configuration menu.

2 Press F to enter the **Functions** menu

3 Press 8 and then Enter. The display will show r momentarily.

4 Press E and then Enter to exit the menu and save changes.

To show the current firmware version

1 Enter the Configuration menu.

2 Press F to enter the **Functions** menu

3 Press 1 and then Enter.

The display will blank for a short while and then the major number of the firmware revision will be shown. The display will blank again and then show the first digit of the minor number. Following another blank, the second digit of the minor number will be displayed. e.g. *<blank> 1 <blank> 0 <blank> 2 <blank> equals v1.02*

4 Press E and then Enter to exit the menu and save changes.

Performing upgrades

The Adder CCS4 unit is fully upgradeable via flash upgrade. Such upgrades require a Windows-based computer system to be linked via the OPTIONS port.

Items required to perform an upgrade

- Optional upgrade cable (see Appendix 1 for pin-out specifications).
- A Windows-based upgrade computer with an RS232 serial port.
- The latest version of the KVM Firmware Uploader and firmware files for the Adder CCS4 unit - available from the *Technical Support* > *Updates* section of the Adder Technology website (www.adder.com).

To use the KVM Firmware Uploader utility

1 - Obtain and run the KVM Firmware Uploader.

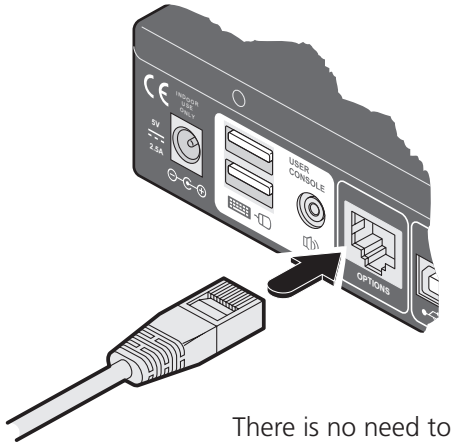
Download the latest Adder CCS4 unit KVM Firmware Uploader from the Adder Technology website and install it on a Windows-based upgrade computer that will be connected to the Adder CCS4 unit. The files are supplied as a compressed ZIP file. Decompress the ZIP file with an appropriate tool such as WinZip (www.winzip.com) and copy all contained files to the same folder on the upgrade computer.

2 - Power off the Adder CCS4 unit

Remove the power supply plug from the rear panel of the unit.

3 - Connect the upgrade computer to the Adder CCS4 unit

Connect the serial port of the upgrade computer to the OPTIONS port on the rear panel of the unit using the optional upgrade cable.



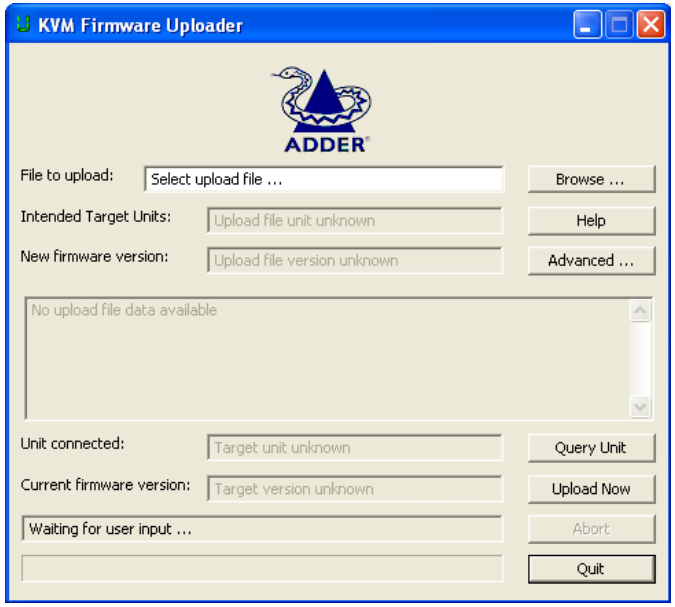
There is no need to adjust the computer's serial port settings as the application will do this automatically.

4 - Invoke upgrade mode

While powering on or when already powered: Press and hold the COMPUTER and MODE buttons (for up to ten seconds) until the numeric indicator shows '**U**'.

5 - Run the KVM Firmware Uploader utility

From that folder, select the KVMUploader icon to run the upgrade utility. The KVM Firmware Uploader dialog will be displayed:



6 - Query the Adder CCS4 unit

Click the *Query Unit* button to confirm that communication is possible with the Adder CCS4 unit and to establish its firmware details. If successful, the 'Unit connected' field should show the name of the Adder CCS4 unit and the current firmware will also be listed.

If the application cannot contact the Adder CCS4 unit, re-check the connection cable and click the *Advanced...* button to check that the correct serial port is being used. Change the serial port within the *Advanced...* section, if necessary.

continued

7 - Select the upgrade file to be used

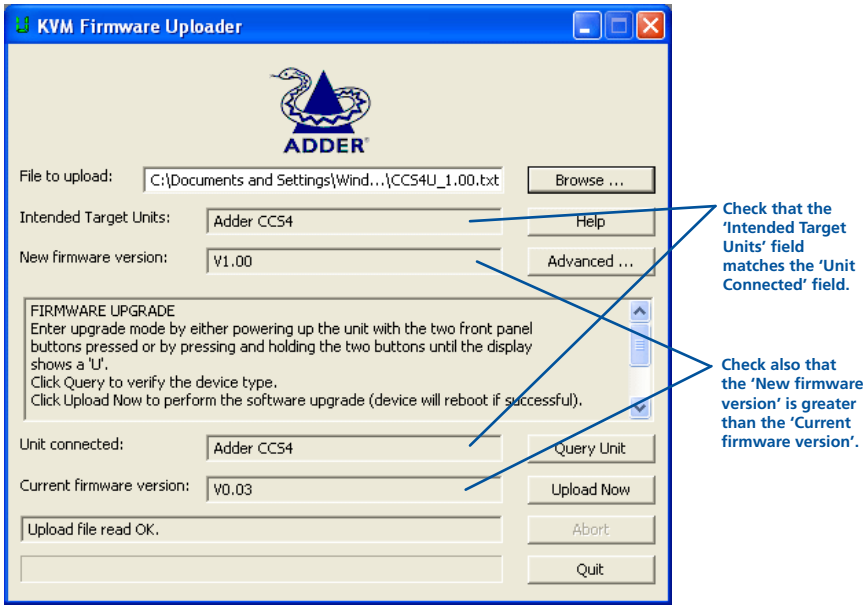
From the main KVM Firmware Uploader dialog, click the *Browse...* button and select the upgrade file:

CCS4U_xxx.txt

where xxx is the firmware version.

The upgrade file details will be displayed within the dialog.

IMPORTANT: Check that the 'Intended Target Units' field matches the 'Unit Connected' field. If these fields do not match then you may have an incorrect upgrade file, check with Adder Technology Ltd before proceeding. Check also that the 'New firmware version' is greater than the 'Current firmware version'.


KVM Firmware Uploader
ADDER
File to upload:
C:\Documents and Settings\Wind...\CCS4U_1.00.txt
Browse ...
Intended Target Units:
Adder CCS4
Help
New firmware version:
V1.00
Advanced ...
FIRMWARE UPGRADE
Enter upgrade mode by either powering up the unit with the two front panel buttons pressed or by pressing and holding the two buttons until the display shows a 'U'.
Click Query to verify the device type.
Click Upload Now to perform the software upgrade (device will reboot if successful).
Unit connected:
Adder CCS4
Query Unit
Current firmware version:
V0.03
Upload Now
Upload file read OK.
Abort
Quit
Check that the 'Intended Target Units' field matches the 'Unit Connected' field.
Check also that the 'New firmware version' is greater than the 'Current firmware version'.

8 - Commence the upgrade

To begin the upgrade process, click the *Upload Now* button. The progress will be shown within the dialog. Should you decide not to continue with the upload at any stage, click the *Abort* button; response to this is usually immediate, however, during an erase command, the upload will not be aborted until the erase is complete (this may take a few seconds).

9 - Cycle the power

Disconnect the power. When the power is re-applied the Adder CCS4 unit will operate using the new firmware.

Issues to consider when performing flash upgrades

The upgrade program rewrites the internal firmware code. If the upgrade process is interrupted then the unit will have invalid code and will not be able to operate. It is therefore good practice to ensure that the upgrade process is always fully completed. A partial or failed upgrade may be rectified by performing another upgrade.

WARNING: Running faulty or partially upgraded code may have unpredictable results and may damage your Adder CCS4 unit or computing equipment.

Operation

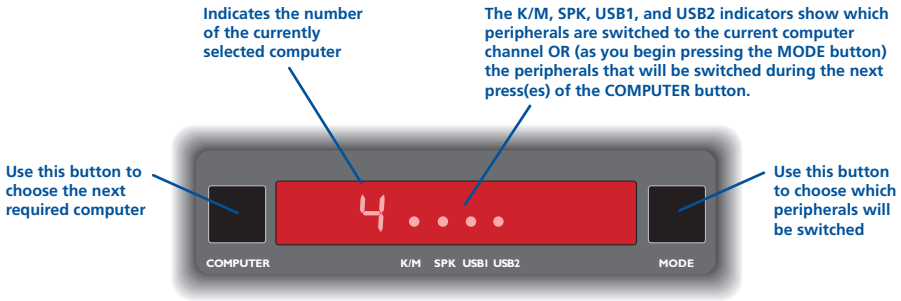
Selecting a computer

There are four main ways to switch the common peripherals to specific computer channels:

- Using the control panel ➲
- Using hotkeys
- Using mouse button presses
- Using the optional RC4 remote control

To select a computer using the control panel

The control panel allows you to determine how the various peripherals are switched to one or more computer channels.


Indicates the number of the currently selected computer
The K/M, SPK, USB1, and USB2 indicators show which peripherals are switched to the current computer channel OR (as you begin pressing the MODE button) the peripherals that will be switched during the next press(es) of the COMPUTER button.
Use this button to choose the next required computer
Use this button to choose which peripherals will be switched
4
COMPUTER
K/M SPK USB1 USB2
MODE

1 Optional: If you need to selectively switch some of your peripherals, press the MODE button repeatedly to change the switching mode:

Note: If an indicator flashes, it signifies that the respective peripheral is currently switched to another computer channel.

2 Press the COMPUTER button repeatedly to select the required computer channel.

To select a computer using hotkeys

Using hotkey combinations, you can quickly switch the keyboard and mouse, speakers and USB peripherals to any computer channel.

There are two main ways to use hotkeys: *Standard* and *Additional*.

Standard hotkey press combinations

The standard hotkey press combinations allow you to change channels with the minimum of keypresses:

1 Simultaneously press and hold Ctrl and Alt (or other hotkeys, if altered).

2 While still holding Ctrl and Alt, press the number key of the required channel address (or the TAB key), then release all of the keys.

Note: The numbers on your keyboard's numeric keypad are not valid, use only the numeral keys above the QWERTY section.

The ports (K/M, audio and/or USB) that are switched using this method depend upon the switching mode that is currently set using the control panel buttons.

The range of standard hotkey combinations are as follows:

Note: If your hotkeys have been changed, substitute them for Ctrl and Alt in the examples given here.

Ctrl Alt 1	Selects channel 1
Ctrl Alt 2	Selects channel 2
Ctrl Alt 3	Selects channel 3
Ctrl Alt 4	Selects channel 4
Ctrl Alt 0	Isolates the user console from all channels
Ctrl Alt Tab	Selects the next channel (see note ⇨)

What are hotkeys?

The Ctrl and Alt keys when pressed in combination are called 'hotkeys' and they signal to the Adder CCS4 unit that you wish to control it, rather than the computer. However, if these particular hotkeys clash with another device or program, you can change them to a different combination within the Configuration menu.

Additional hotkey press combinations

In addition to the standard hotkey press combinations (shown left), you can also add additional keypresses in order to determine which peripherals are switched:

1 Simultaneously press and hold Ctrl and Alt.

2 Press and release a command key:

A *to switch all peripherals*

K *to switch only the keyboard and mouse*

S *to switch only the speakers*

U *to switch only USB1 and USB2*

3 Press and release the required channel number (1 to 4 using only the keys above the QWERTY section).

4 Release Ctrl and Alt.

The appropriate peripherals will change to the chosen channel.

Note: Regardless of which peripherals were switched, the front panel indicators will continue to show the switching mode that was last determined using the front panel controls.

Choosing which computers are accessed when using hot keys + tab

The computer channels that are visited when you use the hot keys + tab (or mouse buttons) are determined by a setting within the Configuration menu:

1 Enter the Configuration menu.

2 Press U and then press either:

7 to choose **Cycle all ports**, or

8 to choose **Cycle only active ports**

3 Press Enter to accept the setting and return to the main menu section.

4 Press E and then Enter to exit the menu and save changes.

To select a computer using the mouse buttons

Using the mouse buttons, you can quickly switch the keyboard and mouse, speakers and/or USB peripherals to any computer channel.

Note: These procedures work only with three-button or IntelliMouse devices and only if the 'Mouse Switching' option has been enabled.

To select a computer using the mouse buttons

1 Hold down the middle button (or scroll wheel) of the mouse.

2 Click the left mouse button to increment the channel number or click the right mouse button to decrement the channel. When the correct channel is reached, release the middle button.

When using this method of switching:

- The computer channels that are visited depend upon the configuration menu setting (see note ⇨).
- The ports (K/M, audio and/or USB) that are switched using this method depend upon the switching mode that is currently set using the control panel buttons.

Choosing which computers are accessed when using mouse buttons

The computer channels that are visited when you use the mouse buttons (or hotkeys + tab) are determined by a setting within the Configuration menu:

1 Enter the Configuration menu.

2 Press U and then press either:

7 to choose **Cycle all ports**, or

8 to choose **Cycle only active ports**

3 Press Enter to accept the setting and return to the main menu section.

4 Press E and then Enter to exit the menu and save changes.

Further information

This chapter contains a variety of information, including the following:

- Getting assistance - see right
- Appendix 1 – Cable pin-outs
- Safety information
- Warranty
- Radio frequency energy statements

Getting assistance

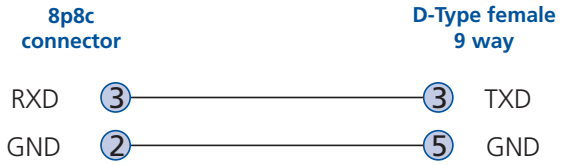
If you are still experiencing problems after checking the list of solutions in the Troubleshooting section then we provide a number of other solutions:

- Adder Technology website – ***www.adder.com***
  Check the Support section of our website for the latest solutions and driver files.
- Email – ***support@adder.com***
- Fax in the UK: **01954 780081**
  in the US: **+1 888 275 1117**
- Phone in the UK: **01954 780044**
  in the US: **+1 888 932 3337**

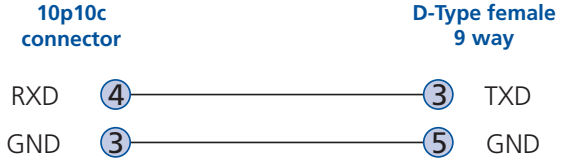
Appendix 1 – Cable pin-outs

The OPTIONS port uses a 10p10c socket which can accommodate both 10p10c connectors as well as the much more common 8p8c connectors, which are used on Ethernet leads and patch cables. The pin-outs are listed in this section for both types of connector.

Serial remote control and flash upgrade cable (8p8c)



Serial remote control and flash upgrade cable (10p10c)



Safety information

- For use in dry, oil free indoor environments only.
- Not suitable for use in hazardous or explosive environments or next to highly flammable materials.
- Warning – the power adapter contains live parts.
- No user serviceable parts are contained within the power adapter - do not dismantle.
- Do not use the power adapter if the power adapter case becomes damaged, cracked or broken or if you suspect that it is not operating properly.
- Replace the power adapter with a manufacturer approved type only.
- If you use a power extension cable, make sure the total ampere rating of the devices plugged into the extension cable do not exceed the cable's ampere rating. Also, make sure that the total ampere rating of all the devices plugged into the wall outlet does not exceed the wall outlet's ampere rating.
- Do not attempt to service the Adder CCS4 unit, the power adapter or the optional remote control yourself.
- The power adapter can get warm in operation – do not situate it in an enclosed space without any ventilation.
- The Adder CCS4 unit does not provide ground isolation and should not be used for any applications that require ground isolation or galvanic isolation.
- When using the power adapter, use only with a grounded outlet. When using a backup power supply (UPS), power the computers, the monitors and the Adder CCS4 from the same supply.

Warranty

Adder Technology Ltd warrants that this product shall be free from defects in workmanship and materials for a period of two years from the date of original purchase. If the product should fail to operate correctly in normal use during the warranty period, Adder will replace or repair it free of charge. No liability can be accepted for damage due to misuse or circumstances outside Adder's control. Also Adder will not be responsible for any loss, damage or injury arising directly or indirectly from the use of this product. Adder's total liability under the terms of this warranty shall in all circumstances be limited to the replacement value of this product. If any difficulty is experienced in the installation or use of this product that you are unable to resolve, please contact your supplier.

Emissions and Immunity

All interface cables used with this equipment must be shielded in order to maintain compliance with radio frequency energy emission regulations and ensure a suitably high level of immunity to electromagnetic disturbances.

European EMC directive 89/336/EEC

CE

This equipment has been tested and found to comply with the limits for a class A computing device in accordance with the specifications in the European standard EN55022. These limits are designed to provide reasonable protection against harmful interference. This equipment generates, uses and can radiate radio frequency energy and if not installed and used in accordance with the instructions may cause harmful interference to radio or television reception. However, there is no guarantee that harmful interference will not occur in a particular installation. If this equipment does cause interference to radio or television reception, which can be determined by turning the equipment on and off, the user is encouraged to correct the interference with one or more of the following measures: (a) Reorient or relocate the receiving antenna. (b) Increase the separation between the equipment and the receiver. (c) Connect the equipment to an outlet on a circuit different from that to which the receiver is connected. (d) Consult the supplier or an experienced radio/TV technician for help.

FCC Compliance Statement (United States)

This equipment generates, uses and can radiate radio frequency energy and if not installed and used properly, that is, in strict accordance with the manufacturer's instructions, may cause interference to radio communication. It has been tested and found to comply with the limits for a class A computing device in accordance with the specifications in Subpart J of part 15 of FCC rules, which are designed to provide reasonable protection against such interference when the equipment is operated in a commercial environment. Operation of this equipment in a residential area may cause interference, in which case the user at his own expense will be required to take whatever measures may be necessary to correct the interference. Changes or modifications not expressly approved by the manufacturer could void the user's authority to operate the equipment.

Canadian Department of Communications RFI statement

This equipment does not exceed the class A limits for radio noise emissions from digital apparatus set out in the radio interference regulations of the Canadian Department of Communications.

Le présent appareil numérique n'émet pas de bruits radioélectriques dépassant les limites applicables aux appareils numériques de la classe A prescrites dans le règlement sur le brouillage radioélectriques publié par le ministère des Communications du Canada.

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